

Multifunctional Integration incl. Integrated Photonics and Flexible Electronics

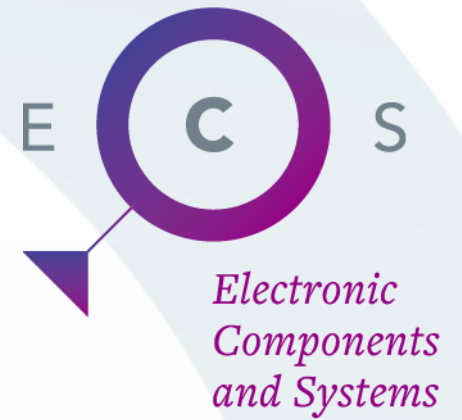


Summary of discussions

E. Steimetz, EPoSS office director

Online workshop, 2021/05/20

Summary



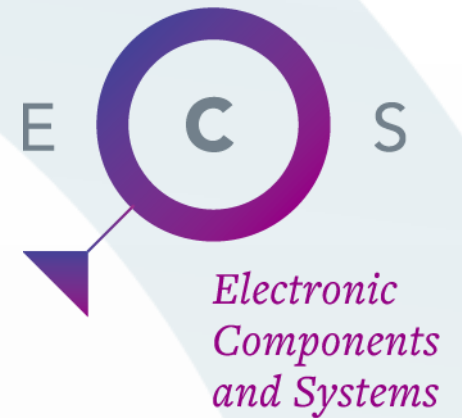
Multifunctional integration including Integrated Photonics and Flexible Electronics

Goal: collect, align and discuss inputs to the definition of priority-topics as a basis for the discussion on priorities in the Work Programme for the first KDT call

Summary:

- This workshop specifically addressed **multifunctional system integration R&I priorities** as identified by the **ECS community** (described in the various sections of the ECS SRIA 2021) completed by priorities for Flexible Electronics (presented by **OE-A (R. Zichner)**) and Integrated/Silicon **Photonics** (R. Baets for Photonics 21).
- Inputs on priorities for public shareholders were given by the EC (W. Steinhögl), Germany (J. Kaltschew for BMBF), K. Leino (Business Finland)
- Industrial technical challenges and perspectives were addressed by K. Pressel (Infineon) and M. Illing (Bosch).

Results: for further discussion in KDT GB:

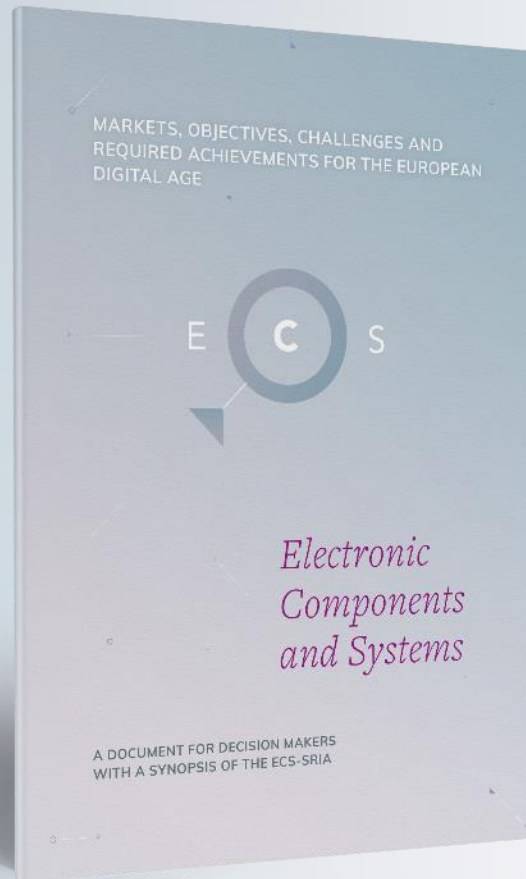


Challenges & Objectives:

- **Digital Age; Green ECS; Competitiveness of European industry; Digital autonomy;**

R&D&I: priorities for multifunctional integration:

- **Novel devices, modules & systems with new or improved functionalities** (advanced logic, Specific power and RF application technologies; Advanced interconnect, encapsulation and packaging technologies; 3D integration technologies); Application-specific multifunctional integration incl. photonics and flexible; where industrial uptake is likely; take manufacturing aspects into account!
- **Physical and functional integration** for new sensing, imaging and actuation solutions, communications, Energy and thermal management; incl. information processing; AI at the Edge;
- **Materials** (innovative, green, functional bulk and surface coating materials); Improved design and simulation capabilities (material data base);
- **Technologies, manufacturing and integration processes** (Integration for complexity: Embedding of components into several types of substrate; Fluidics, photonics, flexible electronics);
- **Decarbonisation and recyclability;** Develop technology platforms offering re-usable modules
- Enhance and ensure **reliability, robustness and sustainability of ECS;**
- Further **integration of SMEs and startups;** access to production capacities; platforms;



Thank you for joining us!

Want more?

Register for the next workshops:

- May 27** **Micro-nanoelectronics challenges in KDT - W2**
- June 1** **Green ECS and Decarbonisation - W3**